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Fiscal Year 2003 President´s Budget Request for NIMH

Statement of the Acting Director to the
House Subcommittee on Labor-HHS-Education and Related Agencies, March 13, 2002
Senate Subcommittee on Labor-HHS-Education and Related Agencies, March 21, 2002

Mr. Chairman and Members of the Committee:

I am pleased to present the President's budget request for the National Institute of Mental Health (NIMH) for Fiscal Year 2003, a sum of $1,359,008,000, which reflects an increase of $105,358,000 over the comparable Fiscal Year 2002 appropriation.

In my statement I will highlight new NIMH initiatives that represent both what we are doing proactively to better meet the clinical treatment needs of people with severe mental disorders, and how we are responding to urgent national needs, including the psychological aftermath of the September 11 terrorist attacks. I also will describe selected findings that illustrate how NIMH is exploiting advances across a broad spectrum of neuroscience and behavioral science toward our goal of understanding the brain - and, of understanding how, when its processes go awry, mental disorders can occur.

MENTAL ILLNESS IS REAL AND CAN BE TREATED EFFECTIVELY

From our perspective at NIMH, one of the signal accomplishments of the past decade has been the continuing destigmatization of mental illness. Many parties, from patients and families, to grass roots organizations, to the media, to government have contributed to the task of public education. The landmark Surgeon General's Report on Mental Health struck a resounding chord with millions of Americans. Supported by a meticulous review of current scientific knowledge, it issued a straightforward message: Mental illnesses are real and are treatable, and recovery is possible. More than a scientific communication, this is a message of hope that has raised spirits across our Nation. As a marker of the success of NIMH in continuing to disseminate accurate education about mental disorders, I would note that our award-winning home page (**www.nimh.nih.gov**) now registers some 7 million hits each month.

DEVELOPING NEW TREATMENTS FOR MENTAL ILLNESSES

Of course, our educational efforts must be backed up by productive science. We are confident our investments in basic science are on the right track. We also have launched an unprecedented series of clinical effectiveness trials characterized by large sample sizes and relatively few exclusion criteria; in order to further ensure the generalizability of findings, these trials occur not only in academic clinics but also in more "real world" settings including primary care settings. We are assessing outcome on the basis of symptom reduction and also use measures of functional rehabilitation. The approach also calls for aggressive dissemination of results.

Now, in a major new enhancement of treatment improvement research, NIMH is launching a sweeping initiative designed to introduce fundamentally new approaches to the development of treatments for mental disorders. Somatic and psychological treatments available today are highly effective for many people with mental disorders. For significant numbers of persons, however, extant treatments are not effective. Too much time may be required for medications to exert therapeutic effect, thus rendering a treatment impractical in some instances; in other cases, certain individuals do not respond sufficiently to achieve full remission from an acute episode of illness or to avoid recurring episodes. With the advice of the Treatment Development Workgroup of the National Advisory Mental Health Council (NAMHC), we are exploring how federally funded research complements and can leverage work being conducted in the private sector. With respect to medications development, for example, we plan to step up our efforts to generate information needed by private sector entities whose business it is to develop and test promising new compounds. Additionally, a challenge of immediate importance for NIMH is to encourage the field to move beyond thinking of new treatments only from the perspective of diagnostic entities such as schizophrenia or depression, and to focus down to the component symptoms that combine to form global diagnostic entities. Schizophrenia, for example, is characterized by dimensions such as disorganized thinking, misperception of reality, and cognitive impairment. The Food and Drug Administration (FDA) currently approves most drugs for psychiatric disorders only for diagnoses categorically defined in the Diagnostic and Statistical Manual (DSM) of Mental Disorders (4th Edition). Research that leads to

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an appreciation of psychiatric diagnoses as "multi-dimensional" will position NIMH to partner with FDA and industry to achieve consensus on appropriate methods and clinical endpoints other than DSM diagnoses. If symptom complexes such as cognitive impairment in schizophrenia were to be recognized by the FDA as legitimate targets for new drug registration, the pharmaceutical industry would be provided with powerful incentives to develop treatments targeting these specific disabilities and great benefits in health might accrue.

The Treatment Development Initiative will be an Institute-wide enterprise, with a key role to be assumed by the intramural Mood and Anxiety Disorders Program. This newly established program has recruited senior investigators from academia and now stands at the leading edge of research aimed at understanding and measuring structural changes in the brain associated with depression, chronic stress, and post-traumatic stress disorder, and at developing brain-based biomarkers to be used in monitoring treatment progress and outcome. Other research objectives will encompass studies of gene expression of proteins that may serve as potential targets for new drugs, development of more informative animal models, preclinical development of promising new compounds, and efforts to better dissect DSM syndromes into component dimensions that can be targeted for specific treatment.

Meeting the urgent goal of expanding the array of interventions that will be effective for more individuals with disorders is contingent on our long-term investments in diverse areas of research. I would like to highlight a few findings reported by NIMH-funded investigators over the past year indicating that we are, indeed, realizing dividends from our research conducted over the course of many years, for example, in refining brain imaging technologies and in exploiting cutting edge tools such as molecular genetics in the study of mental disorders.

VISUALIZING BRAIN CHANGES IN CHILDHOOD SCHIZOPHRENIA

Schizophrenia, the subject of the acclaimed new film, A Beautiful Mind, based on the book by Sylvia Nassar, is a cruel disease. According to the World Health Organization, schizophrenia affects approximately 1 percent of the population globally. The illness most often manifests in late adolescence or early adulthood. Psychotic symptoms, including hallucinations and delusions, can be severely and persistently disabling. Understanding brain changes that correlate with psychotic symptoms will give us insight into the origins of schizophrenia. In recent years, imaging studies have shown changes in the volume of various brain structures that correlate with a diagnosis of schizophrenia. Last year, a team of NIMH investigators reported a study that used magnetic resonance imaging (MRI) to examine, over the course of 5 years, a group of teenagers with relatively rare early-onset schizophrenia, and to compare the brain scans of these young patients to those of a group of healthy controls. In the ill children, gray matter loss began in a small region of the parietal cortex, where gray matter is lost normally in adolescence. Over the course of the study, however, the images revealed a virtual wildfire of tissue loss spreading across the brains of these teens as schizophrenia progressed; the extent of these structural changes reflected the severity and time-course of symptoms. Identifying these changes and their causes will help researchers to understand the mechanisms of psychotic disorders and, in the long run, develop better treatments.

SEEKING CLUES TO GENETIC VULNERABILITY FOR AUTISM

Although no specific genes have been identified to date and no specific region of the genome has been linked unambiguously to autism, the presence of a strong genetic component is incontrovertible. The genetic, or heritable, component is thought to account for as much as 90 percent of the liability for autism. Evidence to date is most consistent with involvement of multiple genes, each having small effect, that together with nongenetic factors produce vulnerability. A number of Institutes are collaborating on studies of autism, and the pace of research is encouraging. Last year, an NIMH grantee reported a potential linkage to autism of variants of a gene called wnt2. The gene is expressed in the brain's thalamus, a region important for integrating information. The product of the wnt2 gene appears to play a key role in brain development and behavior. The finding is intriguing in light of other studies demonstrating that mice that lack a signaling molecule called "Disheveled," which is in the same molecular pathway as wnt2, exhibit reductions in general social interactions, in huddling during sleep, and in other grooming behaviors - all behaviors that suggest symptoms of autism. The promise of genetics research is to shed light on the biology of the illness and, in turn, to lead to earlier diagnosis and improved treatments; ultimately, of course, we anticipate that genetics studies will lead to preventive interventions.

As this basic work proceeds, I wish to note that NIMH maintains a network of Research Units on Pediatric Psychopharmacology, or RUPPS, that includes five research groups dedicated to evaluating treatments for autism, examining, for example, dose ranges and regimens of medications and their effects on cognition, behavior, and development. Complementary studies of pediatric pharmacology are being supported by the National Institute of Child Health and Human Development (NICHD). I also am pleased to report that NIMH and NICHD soon will launch the first round of funding in the new STAART (Studies to Advance Autism Research and Treatment) Centers program called for in the Children's Health Act of 2000.

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9/11: RESPONDING TO THE PSYCHOLOGICAL AFTERMATH

In opening, I mentioned that the Institute has been involved in our national response to the September attacks on our Nation. Even as we mourn the loss of the more than 3,300 persons who lost their lives that day in New York, Washington, and Pennsylvania, we must attend also to the cost of those tragic events to millions of Americans who have suffered and are living with horrific images and memories of 9/11. While communities are pressed to deal with immediate problems, it is important to learn what we can from these terrible events. NIMH is utilizing multiple research mechanisms, including Rapid Assessment Post Impact of Disaster (RAPID) grants and supplements to existing longitudinal and clinical studies. The RAPID program was established years ago to support research in the aftermath of an unforeseen event that necessarily requires expedited peer review and funding consideration. From a large number of inquires, we invited approximately 18 applications to undergo peer review. These propose to address topics including the epidemiology of exposure and reactions; the nature of settings in which victims/survivors present for care and what types of care are provided; the mental health impact of bioterrorism and on-going threats; the mechanisms by which trauma confers risk for adverse health outcomes; and use of various interventions to reduce the risk of disorder and disability. Several projects now are in review and plans are being made for funding.

In addition, we are enhancing ongoing epidemiological and clinical research studies by adding questions relevant to the impact of the attacks. For example, questions related to exposure to terrorist attack and the subsequent psychological distress were added to ongoing studies of adult and child mental health being conducted by investigators in New York. Research on the neurobiological mechanisms by which trauma increases the risk of mental disorder for children and adults also is being conducted in New York, and now will involve victims/survivors of the World Trade Center attacks. NIMH will also be looking to a number of national surveys of health and mental health to provide estimates of prevalence of mental disorders, functional impairments and disability, and services needed and being used before and after the attacks.

In this context, we know that post-traumatic stress disorder, or PTSD, can be a chronic, debilitating disorder that develops in some but not all people exposed to severely threatening trauma. Insomnia and non-restorative sleep - and nightmares representing the trauma - are recognized symptoms of PTSD. Recent research indicates a relationship of dream characteristics and early adaptive vs. maladaptive patterns of processing traumatic memory. These findings have immediate clinical utility in helping suggest persons to whom early treatments should be targeted.

JOHN EDWARD PORTER NEUROSCIENCE RESEARCH CENTER (NRC)

We are pleased that work is progressing on schedule in construction of the NRC. The foundation is being poured imminently, and six NIH Institutes that have programs in neuroscience are slated to begin working in the facility in January 2004. Ultimately, the neuroscience programs of ten Institutes will be housed in the Center, greatly facilitating the exchange of information and its translations into clinical applications.

NIMH DIRECTORSHIP

Dr. Steven E. Hyman, NIMH Director from 1996 to December 2001, has returned to Harvard University as Provost. While we miss his energy and vision, we plan to continue to build on the progress of the past five years. A national search for a permanent director is underway.

Mr. Chairman, the NIH budget request includes performance information required by the Government Performance and Results Act (GPRA) of 1993. Prominent in the performance data is NIH's second annual performance report, which compared our FY 2001 results to the goals in our FY 2001 performance plan. I will be pleased to respond to any questions.

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